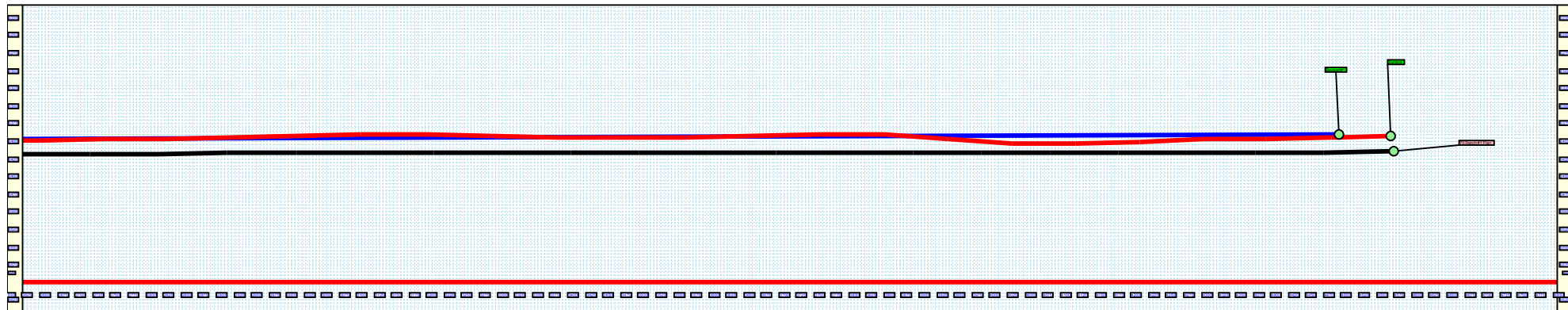
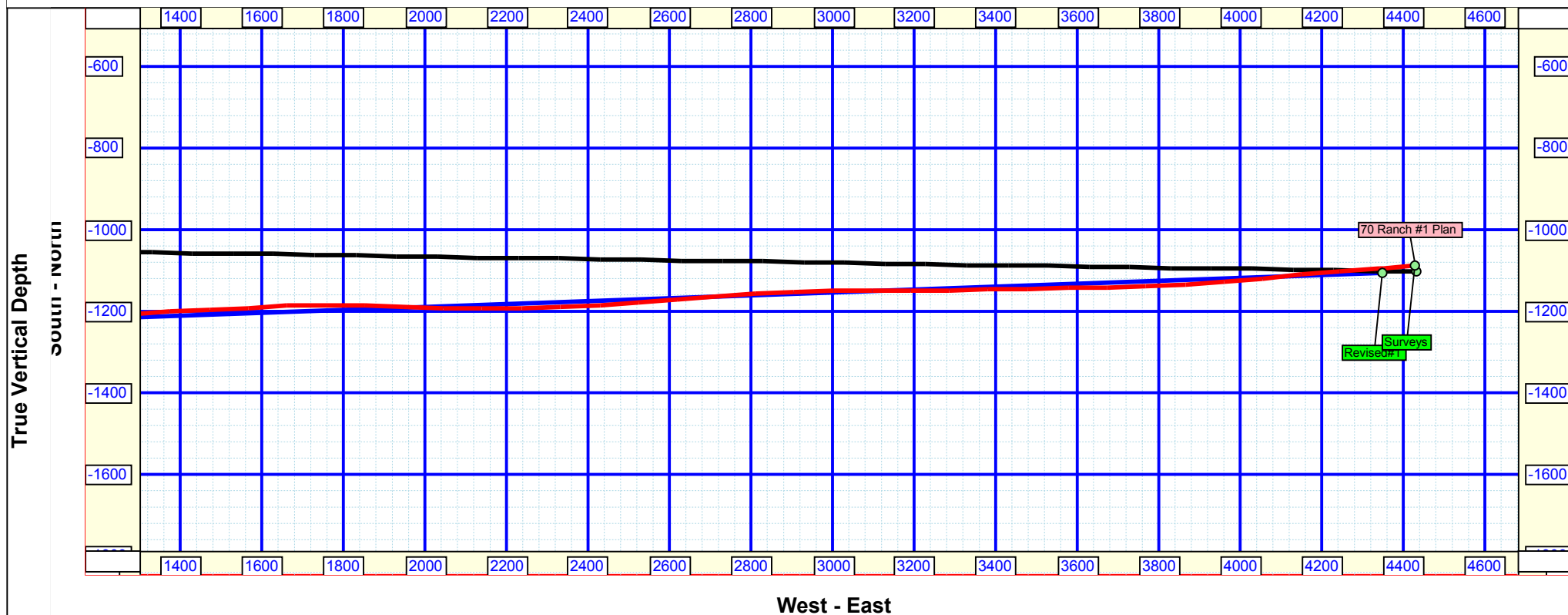




Job Number: 12062013
Company: Bill Barrett Corp
Lease/Well: 70 Ranch
Location: 04-63-03-4956CH
Rig Name: Nabors M-37
State/County: Colorado/ Weld
Country: USA
API Number: 15-123-37925

Elevation (To MSL): 0.00 ft
RKB: 0.00 ft
Projection System: US State Plane 1927 (Exact solution)
Projection Group: Colorado North 501
Projection Datum: CLARKE 1866
Magnetic Declination: 8.19
Grid Convergence: 0.80920 E
Date: Tuesday, December 17, 2013



Vertical Section (25 Ft/Div) VSP: 103.98°



Precision

Survey Report

Client	Bighorn Directional	MWD Operator	S. Bartz / A. Skoog
Well Name	70 Ranch 04-63-03-4956	Rig Name	Nabors M37
Location	Weld County, CO	End Date	12/17/2013
Start Date	12/7/2013	Proposed Direction	103.98
		Total Correction	8.29

SUR NUM	MD ft	INC °	AZM °	TVD ft	N-S ft	E-W ft	SECT ft	DLS °/100'
TIE IN	747	0.64	67.21	747.00	-2.22	-0.21	-2.22	0.00
1	883	0.90	141.90	882.99	-2.77	1.15	1.78	0.7
2	975	2.1	175.3	974.96	-5.01	1.73	2.89	1.6
3	1068	4.0	179.4	1067.82	-9.96	1.91	4.26	2.1
4	1160	6.7	184.5	1159.41	-18.52	1.52	5.95	3.0
5	1252	9.0	186.4	1250.55	-31.02	0.30	7.78	2.5
6	1344	10.7	183.8	1341.19	-46.70	-1.07	10.24	1.9
7	1438	13.0	186.2	1433.18	-65.92	-2.79	13.21	2.5
8	1534	14.6	190.1	1526.41	-88.56	-6.08	15.49	1.9
9	1629	14.0	189.6	1618.46	-111.68	-10.10	17.18	0.6
10	1725	15.0	189.8	1711.40	-135.37	-14.15	18.98	1.0
11	1821	14.3	185.9	1804.28	-159.41	-17.48	21.55	1.3
12	1918	16.4	190.3	1897.82	-184.80	-21.16	24.11	2.5
13	2014	15.7	188.4	1990.08	-210.99	-25.48	26.24	0.9
14	2109	15.4	193.1	2081.61	-235.99	-30.22	27.69	1.4
15	2204	14.5	190.1	2173.39	-259.98	-35.16	28.69	1.2
16	2300	13.7	188.7	2266.50	-283.05	-38.99	30.54	0.9
17	2396	14.6	185.7	2359.59	-306.33	-41.91	33.33	1.2
18	2492	14.2	183.3	2452.57	-330.13	-43.79	37.26	0.7
19	2587	15.2	186.8	2544.46	-354.13	-45.94	40.97	1.4
20	2683	15.2	189.8	2637.10	-379.03	-49.57	43.46	0.8
21	2778	14.7	189.1	2728.89	-403.20	-53.60	45.40	0.6
22	2874	14.1	187.3	2821.87	-426.83	-57.01	47.79	0.8
23	2969	13.5	189.8	2914.13	-449.23	-60.37	49.95	0.9
24	3064	12.8	195.2	3006.64	-470.32	-65.01	50.53	1.5
25	3159	12.8	193.3	3099.28	-490.71	-70.19	50.43	0.4
26	3255	11.9	186.8	3193.06	-510.89	-73.81	51.80	1.7



Precision

Survey Report

Client	Bighorn Directional	MWD Operator	S. Bartz / A. Skoog
Well Name	70 Ranch 04-63-03-4956	Rig Name	Nabors M37
Location	Weld County, CO	End Date	12/17/2013
Start Date	12/7/2013	Proposed Direction	103.98
		Total Correction	8.29

SUR NUM	MD ft	INC °	AZM °	TVD ft	N-S ft	E-W ft	SECT ft	DLS °/100'
27	3351	12.4	183.4	3286.91	-531.01	-75.60	54.93	0.9
28	3446	14.4	184.1	3379.32	-552.98	-77.05	58.83	2.1
29	3541	15.4	185.7	3471.13	-577.31	-79.14	62.67	1.1
30	3638	16.1	186.8	3564.49	-603.48	-82.01	66.21	0.8
31	3734	15.0	188.2	3656.97	-629.00	-85.36	69.12	1.2
32	3829	14.2	188.2	3748.90	-652.70	-88.78	71.53	0.8
33	3924	13.8	188.5	3841.08	-675.44	-92.11	73.79	0.4
34	4021	12.2	187.5	3935.59	-697.04	-95.16	76.05	1.7
35	4117	12.8	194.0	4029.32	-717.42	-99.06	77.19	1.6
36	4214	14.2	193.1	4123.64	-739.43	-104.36	77.37	1.5
37	4310	13.7	193.1	4216.81	-761.97	-109.60	77.73	0.5
38	4406	13.7	189.4	4310.08	-784.26	-114.03	78.81	0.9
39	4503	12.0	189.8	4404.64	-805.53	-117.63	80.46	1.8
40	4599	12.4	187.3	4498.48	-825.59	-120.64	82.39	0.7
41	4695	13.9	185.5	4591.96	-847.29	-123.05	85.29	1.6
42	4791	13.6	185.2	4685.21	-870.01	-125.18	88.71	0.3
43	4887	12.6	185.0	4778.71	-891.68	-127.11	92.07	1.0
44	4983	13.0	182.0	4872.32	-912.91	-128.40	95.94	0.8
45	5078	9.8	181.8	4965.44	-931.67	-129.03	99.87	3.4
46	5174	9.1	186.1	5060.13	-947.39	-130.09	102.63	1.0
47	5270	7.1	185.0	5155.17	-960.85	-131.42	104.60	2.1
48	5366	5.5	184.8	5250.59	-971.34	-132.32	106.26	1.7
49	5462	4.3	182.5	5346.24	-979.52	-132.86	107.71	1.3
50	5558	3.6	184.0	5442.01	-986.12	-133.23	108.95	0.7
51	5654	2.6	187.1	5537.87	-991.29	-133.71	109.73	1.1
52	5750	2.2	186.2	5633.78	-995.28	-134.18	110.24	0.4
53	5844	1.7	183.1	5727.73	-998.47	-134.45	110.75	0.5
54	5941	1.2	177.5	5824.69	-1000.92	-134.48	111.31	0.5
55	5987	1.1	178.7	5870.69	-1001.84	-134.45	111.56	0.2
56	6028	0.9	149.3	5911.68	-1002.51	-134.28	111.89	1.3



Precision

Survey Report

Client	Bighorn Directional	MWD Operator	S. Bartz / A. Skoog
Well Name	70 Ranch 04-63-03-4956	Rig Name	Nabors M37
Location	Weld County, CO	End Date	12/17/2013
Start Date	12/7/2013	Proposed Direction	103.98
		Total Correction	8.29

SUR NUM	MD ft	INC °	AZM °	TVD ft	N-S ft	E-W ft	SECT ft	DLS °/100'
57	6107	5.1	103.4	5990.56	-1003.86	-130.54	115.84	5.7
58	6125	5.5	109.4	6008.48	-1004.33	-128.95	117.50	3.8
59	6222	13.1	115.8	6104.14	-1010.67	-114.65	132.91	7.9
60	6318	23.4	115.4	6195.19	-1023.62	-87.56	162.32	10.7
61	6415	34.3	115.5	6280.02	-1043.71	-45.36	208.12	11.2
62	6510	47.1	119.6	6351.91	-1072.54	9.29	268.12	13.8
63	6542	52.1	121.4	6372.64	-1084.92	30.27	291.47	16.2
64	6606	61.2	118.2	6407.79	-1111.39	76.64	342.86	14.8
65	6638	68.7	123.8	6421.34	-1126.34	101.44	370.54	28.3
66	6670	75.8	122.6	6431.09	-1143.01	126.93	399.30	22.5
67	6699	82.7	121.6	6436.50	-1158.14	151.05	426.36	24.0
68	6730	90.7	119.1	6438.28	-1173.76	177.73	456.03	27.0
69	6760	91.5	115.0	6437.71	-1187.40	204.44	485.24	13.9
70	6795	90.9	112.9	6436.97	-1201.60	236.42	519.70	6.2
71	6826	91.5	109.1	6436.32	-1212.70	265.35	550.46	12.4
72	6858	92.6	106.1	6435.18	-1222.37	295.83	582.37	10.0
73	6891	98.3	101.3	6432.04	-1230.15	327.72	615.20	22.5
74	6954	99.6	96.2	6422.24	-1239.62	389.20	677.15	8.3
75	6987	94.8	94.5	6418.10	-1242.67	421.79	709.50	15.4
76	7027	95.2	92.4	6414.61	-1245.07	461.56	748.68	5.3
77	7090	95.8	91.7	6408.58	-1247.31	524.23	810.03	1.5
78	7152	92.2	89.4	6404.25	-1247.90	586.06	870.18	6.9
79	7185	89.8	88.2	6403.68	-1247.21	619.05	902.02	8.1
80	7217	89.8	87.6	6403.79	-1246.04	651.03	932.77	1.9
81	7280	90.4	87.6	6403.68	-1243.40	713.97	993.21	1.0
82	7369	90.3	87.1	6403.13	-1239.29	802.87	1078.48	0.6
83	7465	89.6	86.6	6403.22	-1234.01	898.73	1170.22	0.9
84	7560	91.4	86.6	6402.39	-1228.38	993.55	1260.88	1.9
85	7654	90.4	85.9	6400.91	-1222.23	1087.34	1350.40	1.3
86	7750	89.9	85.3	6400.66	-1214.87	1183.05	1441.50	0.8



Precision

Survey Report

Client	Bighorn Directional	MWD Operator	S. Bartz / A. Skoog
Well Name	70 Ranch 04-63-03-4956	Rig Name	Nabors M37
Location	Weld County, CO	End Date	12/17/2013
Start Date	12/7/2013	Proposed Direction	103.98
		Total Correction	8.29

SUR NUM	MD ft	INC °	AZM °	TVD ft	N-S ft	E-W ft	SECT ft	DLS °/100'
87	7846	90.6	84.6	6400.24	-1206.42	1278.68	1532.26	1.0
88	7943	88.6	87.1	6400.92	-1199.40	1375.41	1624.43	3.3
89	8039	88.8	88.0	6403.10	-1195.29	1471.30	1716.48	1.0
90	8135	89.6	87.8	6404.44	-1191.78	1567.22	1808.71	0.9
91	8230	91.2	87.5	6403.77	-1187.88	1662.14	1899.88	1.7
92	8326	91.4	89.4	6401.60	-1185.29	1758.07	1992.34	2.0
93	8422	90.4	91.7	6400.09	-1186.21	1854.05	2085.70	2.6
94	8517	91.1	92.5	6398.84	-1189.69	1948.98	2178.66	1.1
95	8612	89.3	91.0	6398.51	-1192.59	2043.92	2271.49	2.5
96	8709	89.1	90.1	6399.87	-1193.52	2140.91	2365.83	1.0
97	8805	90.7	88.9	6400.03	-1192.68	2236.90	2458.78	2.1
98	8901	90.0	87.8	6399.45	-1189.92	2332.86	2551.22	1.4
99	8997	91.4	86.6	6398.28	-1185.23	2428.73	2643.12	1.9
100	9092	90.2	85.7	6396.95	-1178.85	2523.50	2733.55	1.6
101	9186	91.1	85.2	6395.88	-1171.39	2617.20	2822.67	1.1
102	9283	90.3	86.2	6394.70	-1164.12	2713.92	2914.77	1.3
103	9379	91.5	86.0	6393.19	-1157.59	2809.68	3006.12	1.3
104	9475	91.0	88.0	6391.09	-1152.57	2905.52	3097.90	2.1
105	9571	89.0	89.7	6391.09	-1150.65	3001.50	3190.57	2.7
106	9667	88.5	89.2	6393.19	-1149.72	3097.47	3283.47	0.7
107	9762	89.2	89.7	6395.10	-1148.81	3192.44	3375.42	0.9
108	9856	90.9	89.4	6395.01	-1148.07	3286.44	3466.45	1.8
109	9951	90.0	90.1	6394.27	-1147.66	3381.43	3558.53	1.2
110	10047	91.6	89.0	6392.93	-1146.91	3477.41	3651.49	2.0
111	10150	91.7	88.2	6389.96	-1144.39	3580.34	3750.76	0.8
112	10245	87.3	88.2	6390.79	-1141.41	3675.27	3842.15	4.6
113	10340	85.6	88.2	6396.67	-1138.43	3770.03	3933.39	1.8
114	10435	87.2	86.9	6402.64	-1134.38	3864.75	4024.33	2.2
115	10530	91.5	85.5	6403.72	-1128.08	3959.51	4114.76	4.8
116	10626	92.5	84.6	6400.36	-1119.80	4055.10	4205.51	1.4



Precision

Survey Report

Client	Bighorn Directional	MWD Operator	S. Bartz / A. Skoog
Well Name	70 Ranch 04-63-03-4956	Rig Name	Nabors M37
Location	Weld County, CO	End Date	12/17/2013
Start Date	12/7/2013	Proposed Direction	103.98
		Total Correction	8.29

SUR NUM	MD ft	INC °	AZM °	TVD ft	N-S ft	E-W ft	SECT ft	DLS °/100'
117	10722	90.9	85.2	6397.52	-1111.27	4150.67	4296.19	1.8
118	10816	91.0	85.0	6395.96	-1103.25	4244.31	4385.12	0.2
119	10913	91.1	86.2	6394.18	-1095.80	4341.01	4477.16	1.2
120	10923	91.1	86.0	6393.99	-1095.12	4350.99	4486.67	2.0